

REMARKS

Applicants confirm the election of claims 1-10. Claims 11-20 are canceled above without prejudice to the filing of divisional or continuation applications.

Applicants note with appreciation that claims 6, 7, and 10 are allowable if rewritten in independent form. Applicants wish to defer submission of claims 6, 7, and 10 rewritten in independent form, pending consideration of the present response.

Claims 2-10 are objected to for reasons stated in the Office Action at page 2, section 1. Claims 2-10 are amended in accordance with suggestions made in the Office Action. Reconsideration is respectfully requested.

Claims 1-5, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petry, *et al.* (United States Patent Number 6,538,985) in view of Hwang, *et al.* (United States Patent Number 6,577,598). Reconsideration is respectfully requested.

It is submitted that Petry and Hwang, alone or in combination, fail to teach or suggest a “method for recognizing stations in a home network of an OFDM-based system, wherein the home network includes starting and destination stations,” comprising the “starting station constructing tones corresponding to” “subchannels assigned to its own node number” and a “node number of the destination station” as a “single OFDM symbol,” and “placing the OFDM symbol in a frame for transmission,” as claimed in independent claim 1.

Petry conforms to a media access control (MAC) protocol for an OFDM-based LAN (see Petry, column 3, lines 59-61). Petry further takes advantage of OFDM frames available on a channel physical layer (see Petry, column 3, lines 61-62). However, there is no teaching or suggestion in Petry of a “starting station” that constructs “tones” corresponding to “subchannels assigned to its own node number” and a “node number of the destination station” as a “single OFDM symbol,” and “placing the OFDM symbol in a frame for transmission,” as claimed in amended independent claim 1. Specifically, there is no teaching or suggestion in Petry of a “starting station” “constructing tones” as a “single OFDM symbol,” as claimed in claim 1, since

there is no teaching or suggestion in Petry of a “starting station constructing tones corresponding to subchannels” that are assigned to a node identifier of a starting address of Petry and a node identifier of a destination address of a destination station in Petry as a “single OFDM symbol.” Instead, the starting address and destination address in Petry are placed in separate fields of a frame structure, in a manner similar to that disclosed in the Background section of the specification as filed at Figure 2 and page 3, lines 1-5. One of skill in the art knows that the MAC layer frame format disclosed in Petry at column 4, lines 1-4 includes separate fields for a source address and a destination address. FIG. 2 of Applicants’ drawings, for example, illustrate a starting address field SA and a destination address DA field being separate fields in a frame. Nowhere does Petry teach or suggest a “starting station” “constructing tones” as a “single OFDM symbol,” as claimed in claim 1, for example, a recognition tone being constructed as a first OFDM symbol of a frame to be transmitted (see Figure 4, and page 12, lines 14-21 of the specification as filed).

Hwang likewise fails to teach or suggest a “method for recognizing stations in a home network of an OFDM-based system, wherein the home network includes starting and destination stations,” comprising the “starting station constructing tones corresponding to” “subchannels assigned to its own node number” and a “node number of the destination station” as a “single OFDM symbol,” and “placing the OFDM symbol in a frame for transmission,” as claimed in independent claim 1.

In addition, it is submitted that Petry and Hwang, alone or in combination, fail to teach or suggest “stations other than the starting station detecting the tones from the frame, recovering the node number using indices of the subchannels obtained from the tones, and recognizing the starting station and the destination station,” as claimed in independent claim 1.

Petry teaches that each LAN node is assigned a unique node identifier that is an index of an FFT frequency bin (see Petry, column 4, lines 23-25). The node identifier may map to one or more FFT frequency bins (see Petry, column 4, lines 38-42). Petry further teaches that contending nodes, which are ready to transmit data, transmits tones corresponding to its assigned identifier (see Petry, column 4, line 66 through column 5, line 2), and that all contending nodes

decode identifier tones in order to decipher the order in which contending nodes will transmit (see Petry, column 5, lines 12-15). However, there is no teaching or suggestion in Petry of “stations other than the starting station... recovering the node number using indices of the subchannels obtained from the tones,” as claimed in independent claim 1. Specifically, while Petry decodes identifier tones, there is no teaching or suggestion in Petry of “using indices of the substations obtained from the tones” for “recovering the node number,” as claimed in claim 1.

Hwang likewise fails to teach or suggest “stations other than the starting station detecting the tones from the frame, recovering the node number using indices of the subchannels obtained from the tones, and recognizing the starting station and the destination station,” as claimed in independent claim 1.

With regard to the rejection of claim 2, it is submitted that Petry and Hwang, alone or in combination, fail to teach or suggest that “the number of subchannels assigned to each node number in step (a) is calculated by dividing the number of total subcarriers by the number of nodes included in the home network,” as claimed in dependent claim 2. With regard to Petry, even if the number of frequency bins of Petry was analogous to a “number of subchannels assigned to each node,” there is no teaching or suggestion that the number of frequency bins assigned to each node identifier in Petry is calculated by “dividing the number of total subcarriers by the number of nodes included in the home network,” as claimed in dependent claim 2.

With regard to the rejection of claim 3, it is submitted that Petry and Hwang, alone or in combination, fail to teach or suggest that “the assignments of subchannels in step (a) are performed according to the following equation:

$$D_i = \{(k \bmod d) == DSN\}, k < N/2$$
$$S_i = \{(k \bmod d) == SSN\}, k > N/2, i = 1, \dots, M/2,$$

where N indicates the number of total subcarriers, DSN indicates a node number of the destination station, SSN indicates a node number of the starting station, D_i indicates an index of

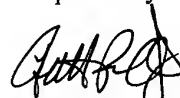
a subchannel assigned to the destination station, and S_i indicates an index of a subchannel assigned to the starting station,” as claimed in dependent claim 3. Applicants find no mention in either Petry or Hwang of this feature, as claimed in claim 3. In particular, contrary to the Office Action at page 4, lines 12-20, there is no disclosure in Petry of the abovementioned equation, as claimed in claim 3, being used to calculate D_i , wherein “ D_i indicates an index of a subchannel assigned to the destination station,” or to calculate S_i , wherein “ S_i indicates an index of a subchannel assigned to the starting station,” as claimed in dependent claim 3.

Accordingly, since Petry and Hwang fail to teach or suggest the claimed features set forth in independent claim 1, or dependent claims 2 and 3, there is no way to combine the references to obtain such teaching or suggestion of the claimed features, and therefore, there is no combination of the references that teaches or suggests the invention set forth in claims 1-5, 8, and 9. Claims 1-5, 8, and 9 are therefore believed to be allowable over the cited references. Accordingly, reconsideration of the rejections of claims 1-5, 8, and 9 under 35 U.S.C. 103(a) based on Petry and Hwang, and allowance of the claims, are respectfully requested.

In view of the amendments to the claims and the foregoing remarks, it is believed that all claims pending in the application are in condition for allowance, and such allowance is respectfully solicited. If a telephone conference will expedite prosecution of the application, the Examiner is invited to telephone the undersigned.

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Respectfully submitted,



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